

*Fertilization of Pedicularis canadensis.* By Mr. THOMAS MEEHAN.

The author drew attention to the structure of the flower of *Pedicularis canadensis*, in which it was evident self-impregnation was impossible, and there seemed to be no special arrangements for fertilization by insect agency, as there were in so many allied plants. In this case the stamens were included in the closely compressed arch of the corolla, and, with the anthers, were directed retrorsely to the pistil, which at an early age, and long before the maturity of the pollen, was protruded beyond the corolla, rendering self-fertilization almost impossible in this flower. But the flowers were always abundantly fertile; and though the arrangements were such as seemingly to afford no chance even for insects to aid in the fertilization, it was also probable that in some way it was accomplished by them. Both last season and this he had devoted some time to watching the plant, but failed to find any clue to the process. A species of *Bombus* seemed to have the plant especially under its charge, visiting the flowers in great numbers; but they bored through the corolla on the outside of the tube for the saccharine matter, and the anthers or pollen did not seem to be in the least disturbed by this. Still it was so highly probable that in some way some insect aided in the cross-fertilization of these flowers, that it might serve a useful purpose to direct attention to it, as others with time and opportunity might discover what he had failed to find.—*Proc. Acad. Nat. Sci. Philad.* June 1873.

*Fertilization of Pedicularis canadensis.* By Mr. GENTRY.

At the last meeting of the Academy, Mr. Meehan made some observations upon the peculiar structure of the flowers of *Pedicularis canadensis*, observing that he had vainly watched them during two seasons with the view of determining the manner in which they were fertilized. He further said that he had noticed that they received the attention of a species of bumble-bee, for the sake of their honey, which, in order to accomplish its purpose, always bored a hole into the side of the tube.

On Wednesday morning last I visited a spot where the plants were growing luxuriantly, affording an interesting field for observation. It was not long before I observed a *Bombus terrestris* to alight upon the outer side of the tube of a flower, at a distance of three feet from me. At this distance it did seem as if the bee, in order to obtain the honey which the flower secretes, produced a slit into the tube, as Mr. Meehan observed. But the movements of the bee being so quick, and the distance too great to judge accurately, I approached the insect by degrees, until I was within three inches of it, when the whole process became apparent. The bee, however, was so intent upon its labours, as not to take any notice of me.

The flower is composed of an erect tube, with a natural cleft running along its lateral walls from above, through one third its entire length, presenting outwardly apparently a mere crease, from